SURVIVAL MATH
SUNBURST COMMUNICATIONS, Inc.
Pleasantville, NY 10570
16K Disk $50.00

Survival Math sounds like a cutesy arcade-style game where one shoots down invading aliens by answering math problems. Wrong again, Pythagoras-breath. This is the most practical, realistic and functional educational software package for the development of mathematical skills I have seen. There are no fancy graphics. The straight-forward text format is all that is necessary for this set of programs, designed for students in grades 7-12. Any student who successfully manages these four simulations will be well prepared for the outside world.

Travel Agent Contest.

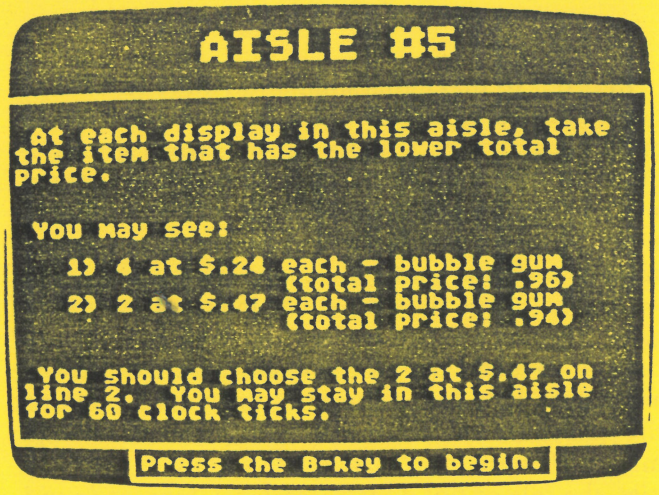
Given a limit for expenses, a seven-day and six-night trip to Lake Geneva is to be arranged. One must try to come as close to this limit as possible without exceeding it. Expenses for travel, food, lodging and entertainment must be taken into account. As each expense category is selected, several options are given. One may decide to travel by plane, bus or train. It is more expensive to travel by plane, but money can be saved on meals during travel if it is selected. One-way fares are provided and, after making a choice, the cost of the round trip must be calculated. If the figure entered is incorrect, it is noted to be either too high or too low, and the total cost is again requested. When the exact cost is entered, the next expense category is planned.

In each category, a number of options is available. Just like in the real world, one may go "first class" and stay in a posh hotel, but then may have to eat at the supermarket. If there is enough money, special events may be attended with or without a friend. Now, who wants to go to a ball game alone?

It should take about five to ten minutes to prepare a plan. The basic math skills required include working with money/decimals and estimation. Besides the computational skills, this program provides students with practice in planning a course of action within a budget. Each time the program is run, the maximum expense allowed is different, as are the costs of the various options within each expense category.

Smart Shopper Marathon.

Remember the supermarket contests where a woman with a shopping cart was given ten minutes to fill it with free groceries? This program recreates that scenario with a few exceptions. There are five aisles in this supermarket, each with twenty-five displays. At the beginning of each aisle, a set of instructions is given, The correct choice must be made at each display based on these instructions. Unlike the other three programs in this series, this one has a time limit. One is given sixty clock ticks for each aisle. If an incorrect response is made, ten ticks are deducted. One point is scored for each correct answer, and a 5-point bonus is awarded for completing all 25 questions.


AISLE #5
At each display in this aisle, take the item that has the lower total price.
You may see:
1) 4 at $.24 each - bubble gum (total price: .96)
2) 2 at $.47 each - bubble gum (total price: .94)
You should choose the 2 at $.47 on line 2. You may stay in this aisle for 60 clock ticks.
Press the B-key to begin.

Smart Shopper Marathon.

A different math skill is required in each aisle. For example, one may be required to pick the item with the lower unit price. Two items are described: 1) Pay $0.60 for two bars of soap; 2) Pay $1.10 for three bars of soap. The #1 key would be pressed here, and the next display would be described. In this example, skill in estimation of division of a decimal by a whole number is required. Estimation of the product of two whole numbers is used when determining the greater total weight of two items in another aisle. Calculating the bigger dollar savings of two items, selecting the item with the larger percent savings, and deciding which items have the lower total price are the objectives in the other three aisles. The order of the aisles changes with each new run. The item prices also vary, but they are always in a realistic price range.

Careful estimates — not exact computations — are stressed in "Marathon." Both speed and accuracy are important since, if every item price is calculated, the student will not have as many opportunities to score points. Comparison shopping is frequently encouraged; the number of individuals who lack experience in this skill is amazing.

Hot Dog Stand.

This program is so realistic that a friend of ours wanted everybody responsible for the local Little League concession stand to practice it before next season. The student begins with $200 and must purchase hot dogs, buns, chips, soda and courtesy kits (napkins, ketchup, etc.) for their stand for an 8-game football season. Before each game, the prices of the items are set. The object is to earn $2,500 by the end of the season.

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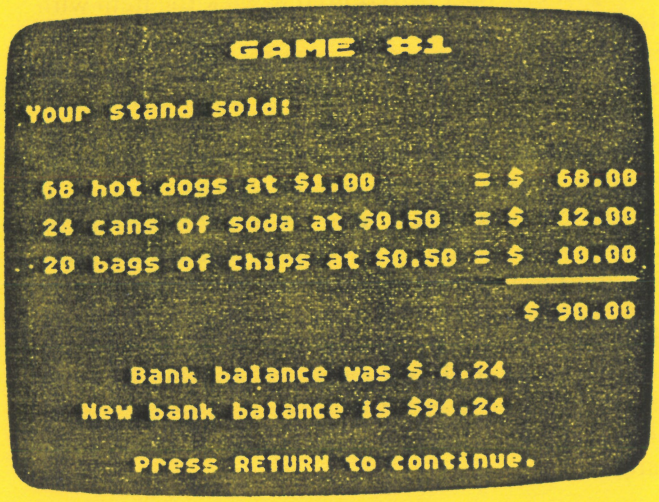
In order to make this simulation more realistic, a number of variables exist. The stands can only hold one thousand fans. Obviously, the crowd size has a direct bearing on sales. The weather affects crowd size and consumption (more soda will be sold on a sunny day). A weather forecast is given; however, the actual weather at game time may vary. Other factors which may alter the crowd size include the type of game (homecomings attract the biggest crowds), time of day, and day of the week (Saturday crowds are larger). Hot dogs cannot be sold without buns, so the purchase of these two items should always match. If there is an inadequate supply of courtesy kits, the sale of hot dogs decreases. Chips, soda and kits do not spoil, but any hot dogs and buns not sold each week are lost. There is also a choice in the quality; inexpensive, low quality hot dogs do not sell as well.


GAME #1
Your stand sold:
68 hot dogs at $1.00 = $ 68.00
24 cans of soda at $0.50 = $ 12.00
20 bags of chips at $0.50 = $ 10.00
$ 90.00
Bank balance was $ 4.24
New bank balance is $94.24
Press RETURN to continue.

Hot Dog Stand.

Pricing is very important. Not too many people will buy $2.50 hot dogs, and a shirtless concessionaire is the result of $0.10 bargain-priced dogs. Unit pricing varies, and it is probably wise to stock up on certain non-perishable items early in the year.

Each time the program runs, the football schedule and other variables differ. After each game, the sales figures for each item, the total sales, and the new bank balance are shown. This simulation provides students with practice in unit pricing, price setting, inventory assessment and dealing with the concepts of profit and loss. Sounds like important stuff to me.

Foreman's Assistant.

In order to build a playroom, six different jobs must be completed. The object of this program is to successfully estimate the amount of materials required for each. There is a $50 limit on unused materials. Also, the entire job must be completed within thirty days. If an unacceptable materials estimate is made (too little material, for example), more days are required to finish the project. After each task is described, the total amount and cost of the materials must be calculated.

The tasks faced in this project are very realistic. The dimensions of the playroom are given. One must calculate the necessary number of vertical supports, 4-by-8 wall panels, bricks to cover one wall (dimensions given for each brick), and gallons of paint to give the room two coats. The number of feet of shelf stock required to build bookshelves on one wall must be computed. Finally, the floor is to be covered with 9-inch tiles.

This is the most difficult of the four programs, and a calculator might come in handy. Along with the obvious math skills required, "Foreman's Assistant" provides practice with conversion of measurments. It is suggested that students complete their estimates using their own methods and that established formulae not be provided. Most students apparently use a variety of techniques without generation of a formula.

In summary, the four simulations in **Survival Math** are truly educational. The fundamental math skills we expect our children to learn can all be found in this package. Challenging and realistic, I highly recommend **Survival Math**.